UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2143	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/921,832	HONG ET AL.
	Examiner	Art Unit	
	Kyung H Shin	2143	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 August 2001</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-37</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>03 August 2001</u> is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/4/03, 4/4/02</u>. 11/6/01

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responding to application papers dated 8/3/2001

2.   Claims **1 - 37** are pending. Independent claims are **1, 7, 16, 25, 32.**

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102

that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section
> 122(b), by another filed in the United States before the invention by the applicant for patent or
> (2) a patent granted on an application for patent by another filed in the United States before
> the invention by the applicant for patent, except that an international application filed under
> the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an
> application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

4.   **Claims 1, 3-7, 16, 23, 25,** are rejected under 35 U.S.C. 102(e) as being

unpatentable over **Hankinson et al. (US 6,799,202,** filed Dec. 16, 1999).

Regarding Claim 1, Harkinson discloses a network switch (see col. 9, lines 15-

23: network switch) for switching transaction requests among a plurality of

servers, comprising:

   a) a routing component that parses transaction requests to locate selected

   fields and thereafter forwards at least portions of the parsed transaction

requests to respective servers; (see col. 2, lines 46-54: receives transaction requests; parses and transmits data from requests to appropriate systems)

b) a cache that stores a plurality of objects corresponding to transaction requests associated with at least one of the plurality of servers, the objects comprising field information in at least one of the selected fields located by and received from the switch component; (see col. 15, lines 49-54: cache store for request information)

c) a decryption processor that decrypts cipher text transaction requests and provides plain text transaction requests to the switch component; (see col. 18, lines 40-43: decoder performs encryption/decryption functions) and

d) a cache processor that accesses the plurality of objects in response to communications received from the routing component. (see col. 15, lines 49-54: responder transmits cached data to appropriate server)

Regarding Claim 3, Harkinson discloses the switch of claim 1, further comprising at least one traffic manager located between the flow switch and one or more clients. (see col. 14, lines 60-67: dispatcher controls and processes all transaction requests)

Regarding Claim 4, Harkinson discloses the switch of claim 1, wherein the selected fields include at least a universal resource locator and a cookie. (see col. 30, lines 51-54: URL data structure processed by dispatcher; web (HTTP) techniques indicates usage of cookie data element)

Regarding Claim 5, Harkinson discloses the switch of claim 1, wherein the switch component includes a current connection table listing active connections between servers and clients. (see col. 31, lines 37-38; col. 15, lines 3-9: active connection list information maintained; col. 12, lines 44-47: multiple active connections)

Regarding Claim 6, Harkinson discloses the switch of claim 1, wherein the plurality of objects in the cache include a plurality of content addresses for specific content and a corresponding hit counter showing a number of instances in a predetermined period of time in which specific content is requested by transaction requests. (see col. 15, lines 49-54: cache storage; col. 20, line 66 - col. 21, line 4: count (tracking) website hits)

Regarding Claims 7, 16, Harkinson discloses a method for switching transaction requests among a plurality of servers, comprising:

a) receiving a transaction request corresponding to a first server, wherein the transaction request is in cipher text; (see col. 2, lines 46-54; col. 8, lines 54-57: encryption/decryption used for communications)

b) decrypting the transaction request; (see col. 18, lines 40-43: decode information)

c) thereafter parsing the transaction request for one or more selected fields in the transaction request; (see col. 2, lines 46-54: parse (select) information from requests) and

d) based on field information in at least one of the one or more selected fields, selecting at least one of the first server and a cache server to serve the transaction request. (see col. 2, lines 46-54: select appropriate server for request)

Regarding Claim 23, Harkinson discloses the method of claim 16, further comprising:

a) determining whether the transaction request can be served by the cache server; and if the transaction request cannot be served by the cache server, forwarding the transaction request to the first server. (see col. 11, lines 59-64: determine appropriate server to send request based on request data)

Regarding Claim 25, Harkinson discloses a network switch for switching transaction requests among a plurality of servers, comprising:

a) a cache that stores a plurality of objects corresponding to transaction requests associated with at least one of a plurality of servers, the objects comprising field information in at least one of selected fields in the transaction requests; a cache processor that accesses the plurality of objects; (see col. 15, lines 49-54: cache store for rapid access data storage) and

b) a decryption processor that decrypts cipher text transaction requests and

provides plain text transaction requests to the cache processor. (see col. 18,

lines 40-43: decoder performs encryption/decryption functions)

Claim Rejection – 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the

basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

6.   **Claims 2, 8, 9, 17, 18, 26-36** are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Hankinson et al. (US 6,799,202)** in view of **Schmeidler (US

6,763,370).**

Regarding Claims 2, 26, 34, Harkinson discloses the generation of a data

structure based on request information, but Harkinson does not specifically

disclose the generated hash value used as an index for a data structure.

However, **Schmeidler** discloses the switch of claim 1, further comprising a digest

generator that generates a digest value based on field information in at least one

selected field of a transaction request, the digest corresponding to a location in

the cache where at least one object corresponding to the transaction request is

to be stored. (see col. 18, lines 44-51: hash (digest) techniques)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Harkinson to use encryption techniques to generate a hash (digest) value used as an index as taught by Schmeidler. One of ordinary skill in the art would be motivated to enhance Harkinson in order to strengthen security for data structures defining transaction information. (see Schmeidler col. 4, lines 34-47: *" ... a server apparatus connectable over a computer network to one or more requestor processes ... "*; col. 29, lines 10-13: *" ... virtual store front server 215 and database 213 are coupled to cache server 210 over a private, secure local area network 205 ..."*)

Regarding Claims 8, 17, 33, Harkinson discloses the method of claim 7, 16, 32 further comprising:

> b) storing selected information corresponding to the transaction request at an address based on the digest value. (see col. 25, lines 37-44: data structure created from request information)

Harkinson discloses the generation of a data structure based on request information, but Harkinson does not specifically disclose the generated hash value used as an index for a data structure. However, **Schmeidler** discloses the method of claim 7, further comprising:

> a) determining a digest value based on field information in at least one of the selected fields; (see col. 18, lines 44-51: hash (digest) techniques)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Harkinson to use encryption techniques to generate a hash value used as an index as taught by Schmeidler.   One of ordinary skill in the art would be motivated to enhance Harkinson in order to generate a generated hash value in order to efficiently utilize data storage techniques (see Schmeidler col. 4, lines 34-47: " ... *a server apparatus connectable over a computer network to one or more requestor processes ...* "; col. 29, lines 10-13: " ... *virtual store front server 215 and database 213 are coupled to cache server 210 over a private, secure local area network 205 ...*")

Regarding Claim 9, Harkinson discloses the switch of claim 8, wherein the selected fields include at least a universal resource locator and a cookie. (see col. 30, lines 51-54: URL data structure processed by dispatcher; web (HTTP) techniques indicates usage of cookie data element)

Regarding Claims 18, 29, 35, Harkinson discloses the switch of claim 16, wherein the selected fields include at least a universal resource locator and a cookie. (see col. 30, lines 51-54: URL data structure is processed by dispatcher; web (HTTP) techniques indicates usage of cookie data element)

Regarding Claim 27, Harkinson discloses the switch of claim 26, further comprising: a routing component that parses the transaction requests to locate

the selected fields and thereafter forwards at least portions of the parsed

transaction requests to respective servers and wherein the cache processor

accesses the plurality of objects in response to communications received from

the routing component. (see col. 15, lines 49-54: cache for request information;

select appropriate server)

Regarding Claim 28, Harkinson discloses the switch of claim 26, further

comprising at least one traffic manager located between the flow switch and one

or more clients. (see col. 14, lines 60-67: dispatcher controls and processes all

transaction requests)

Regarding Claim 30, Harkinson discloses the switch of claim 27, wherein the

switch component includes a current connection table listing active connections

between servers and clients. (see col. 31, lines 37-38; col. 15, lines 3-9: active

connection list information maintained; col. 12, lines 44-47: multiple active

connections)

Regarding Claims 31, 36, Harkinson discloses the switch of claim 26, 33,

wherein the plurality of objects in the cache include a plurality of content

addresses for specific content and a corresponding hit counter showing a

number of instances in a predetermined period of time in which specific content

is requested by transaction requests. (see col. 15, lines 49-54: cache storage;

col. 20, line 66 - col. 21, line 4: hit tracking)

Regarding Claim 32, Harkinson discloses a system, comprising:

a) a plurality of information servers, each configured to provide information requested by a transaction request and stored by at least one of the information servers; (see col. 2, lines 26-28: multiple transaction request servers ; col. 2, lines 47-49; process transaction request information for transfer to server) and

c) a request switch connected to the information servers and the at least one cache server, the request switch being configured to direct the transaction request to an information server and not to the at least one cache server if the information requested by the transaction request is requested infrequently and to the at least one cache server if the information requested by the transaction request is requested frequently, wherein the request switch comprises a parser for identifying selected fields in the transaction request and a decryption processor for decrypting any encrypted transaction request before the transaction request is parsed by the parser. (see col. 2, lines 46-54; col. 15, lines 49-54: multiple types of server systems; receive requests; decode (decrypt) information and process)

Harkinson discloses the cache concept for data storage, but, Harkinson does not specifically disclose a cache server for a transaction request system. However, **Schmeidler** discloses a system, comprising:

b) at least one cache server in communication with the plurality of information

servers and configured to selectively store subsets of information of at least

some of the information servers, the at least one cache server being

configured to provide the information requested by the transaction request

and to request the information from at least one of the information servers

storing the information; (see col. 29, lines 10-19: multiple types of servers;

cache server interconnects to transaction request servers)

It would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify Harkinson to utilize cache server

techniques as taught by Schmeidler.   One of ordinary skill in the art would be

motivated to modify Harkinson in order to rapidly access transaction

processing information. (see Schmeidler col. 29, lines 10-13: " ... *virtual store*

front server 215 and database 213 are coupled to cache server 210 over a

private, secure local area network 205 ...")

7.   **Claims 10-12, 37** are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Hankinson–Schmeidler** as applied to claim 8 above, and

further in view **Kekic (US 6,664,978).**

Regarding Claim 10, Harkinson discloses the method of claim 8, wherein storing

step comprises:

a) at least one of incrementing and decrementing a hit counter; (see col. 20,

line 66 - col. 21, line 4: update website hit counter)

Hankinson–Schmeidler does not specifically disclose updating a counter

and performing a pre-determined action when a threshold is surpassed.

However, **Kekic** discloses the method of claim 8, wherein storing step

comprises:

b) determining if the hit counter at least one of equals or exceeds a

predetermined threshold when the hit counter is incremented and at least one

of equals or is less than the predetermined threshold when the hit counter is

decremented; (see col. 27, lines 12-18: counter with threshold techniques)

and

c) updating a timestamp associated with the stored information. (see col. 18,

lines 37-42: timestamp information)

It would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify Harkinson to utilize a counter for the

occurrence of monitored events and the performance of a pre-determined

action when a threshold is surpassed as taught by Kekic.　One of ordinary

skill in the art would be motivated to modify Harkinson in order to effectively

monitor event occurrences.　(see **Kekic** col. 4, line 66 - col. 5, line 4: " ...

network management solution for computer networks having a computer

network management capability ... efficiently manages a constantly changing

and growing heterogeneous computer network ...")

Regarding Claim 11, Harkinson discloses management of network events, but Hankinson–Schmeidler does not specifically disclose updating a counter and performing a pre-determined action when a threshold is surpassed. However, **Kekic** discloses the method of claim 10, wherein, when the hit counter at least one of equals or exceeds the predetermined threshold, the storing step comprises: determining a plurality of network addresses associated with content referenced in the transaction request. (see col. 27, lines 12-18: counter with a threshold)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Harkinson to utilize a counter for the occurrence of monitored events and the performance of a pre-determined action when a threshold is surpassed as taught by Kekic. One of ordinary skill in the art would be motivated to enhance Harkinson in order to effectively monitor event occurrences.

Regarding Claim 12, Kekic discloses the method of claim 10, wherein, when the hit counter at least one of equals or exceeds the predetermined threshold, directing the transaction request to a cache server that is different from the first server. (see col. 27, lines 12-18: counter with threshold)

Regarding Claim 37, Kekic discloses the system of claim 36, wherein the request switch determines whether the transaction request is to be directed to an

information server or the at least one cache server by comparing the hit counter with a predetermined value for the hit counter. (see col. 27, lines 12-18: counter with a threshold).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Harkinson to utilize a counter for the occurrence of monitored events and the performance of a pre-determined action when a threshold is surpassed as taught by Kekic. One of ordinary skill in the art would be motivated to enhance Harkinson in order to effectively monitor event occurrences. (see Kekic col. 4, line 66 - col. 5, line 4: " ... *network management solution for computer networks having a computer network management capability ... efficiently manages a constantly changing and growing heterogeneous computer network ...")*

8.   **Claims 13-15, 19-22, 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hankinson** as applied to claims 7, 16 above, and further in view of **Kekic (US 6,664,978).**

Regarding Claims 13, 22, Harkinson discloses the method of claims 7, 16 further comprising:

a) determining whether the transaction request is a part of an existing connection between the first server and a client; when the transaction request is part of an existing connection, forwarding the transaction request to the first

server; (see col. 11, lines 59-64: determine if new or active connection required; forward request to appropriate server)

Harkinson discloses management of network events, but Harkinson does not specifically disclose updating a counter value and performing a pre-determined action when a threshold is surpassed. However, **Kekic** discloses the method of claims 7, 16, further comprising:

b) when the transaction request is not part of an existing connection and a hit counter at least one of equals or exceeds a predetermined value, forwarding the transaction to a cache server different from the first server. (see col. 27, lines 12-18: counter with a threshold)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Harkinson to utilize a counter for the occurrence of monitored events and the performance of a pre-determined action when a threshold is surpassed as taught by Kekic. One of ordinary skill in the art would be motivated to enhance Harkinson in order to expand network management monitoring techniques.

Regarding Claim 14, Harkinson discloses the method of claim 13, further comprising:

determining whether the transaction request can be served by the cache server; and if the transaction request cannot be served by the cache server, forwarding the transaction request to the first server. (see col. 11,

lines 59-64: determine appropriate server to send request based on

request information)

Regarding Claims 15, 21, 24, Harkinson discloses the management of network

events, but Hankinson does not specifically disclose updating a counter value

and performing a pre-determined action when a threshold is surpassed.

However, Kekic discloses the method of claim 10, wherein, when the hit counter

at least one of equals or exceeds the predetermined threshold, directing the

transaction request to a cache server that is different from the first server. (see

col. 27, lines 12-18: counter with threshold)

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Harkinson to utilize a counter for the occurrence of

monitored events and the performance of a pre-determined action when a

threshold is surpassed as taught by Kekic.   One of ordinary skill in the art would

be motivated to employ Kekic's in order to effectively monitor event occurrences.

Regarding Claim 19, Harkinson discloses the method of claim 16, wherein

storing step comprises:

a) at least one of incrementing and decrementing a hit counter; (see col. 20,

line 66 - col. 21, line 4: update website hit counter)

Hankinson–Schmeidler does not specifically disclose updating a counter and performing a pre-determined action when a threshold is surpassed. However, **Kekic** discloses the method of claim 8, wherein storing step comprises:

b) determining if the hit counter at least one of equals or exceeds a predetermined threshold when the hit counter is incremented and at least one of equals or is less than the predetermined threshold when the hit counter is decremented; (see col. 27, lines 12-18: counter with threshold techniques) and

c) updating a timestamp associated with the stored information. (see col. 18, lines 37-42: timestamp information)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Harkinson to utilize a counter for the occurrence of monitored events and the performance of a pre-determined action when a threshold is surpassed as taught by Kekic.   One of ordinary skill in the art would be motivated to modify Harkinson in order to effectively monitor event occurrences. (see **Kekic** col. 4, line 66 - col. 5, line 4: " ... *network management solution for computer networks having a computer network management capability ... efficiently manages a constantly changing and growing heterogeneous computer network ...*")

Regarding Claim 20, Harkinson discloses management of network events, but Hankinson–Schmeidler does not specifically disclose updating a counter and performing a pre-determined action when a threshold is surpassed. However,

Kekic discloses the method of claim 19, wherein, when the hit counter at least

one of equals or exceeds the predetermined threshold, the storing step

comprises: determining a plurality of network addresses associated with content

referenced in the transaction request. (see col. 27, lines 12-18: counter with a

threshold)

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Harkinson to utilize a counter for the occurrence of

monitored events and the performance of a pre-determined action when a

threshold is surpassed as taught by Kekic. One of ordinary skill in the art would

be motivated to enhance Harkinson in order to expand network management

monitoring techniques.

Contact Information

9. Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Kyung H Shin whose telephone number is

(571) 272-3920. The examiner can normally be reached on 9 am - 7 pm.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, David A Wiley can be reached on (571) 272-3923. The

fax phone number for the organization where this application or proceeding is

assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KHS

Kyung H Shin
Patent Examiner
Art Unit 2143

KHS
Nov. 9, 2004

Primary Examiner
Art Unit 2143
William C. Vaughn, Jr